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## ***So You Think You Can ELF: English as a Lingua Franca as the Medium of Instruction***

### **Abstract**

This paper reports the findings of a study on spoken English as a lingua franca (ELF) in Swedish higher education. The aim has been to investigate the role pragmatic strategies play in content lectures where English is a lingua franca, i.e. a vehicular language. The findings show that lecturers in ELF settings make less frequent use of pragmatic strategies<sup>1</sup> than students, who deploy these strategies frequently in group-work projects. Earlier stages of the present study showed that despite frequent non-standardness at the morphosyntax level, there is very little overt disturbance in student group-work (Björkman 2008a and b/2009b), most likely owing to a variety of communicative strategies used during interaction and the questions raised (Björkman 2009a). It seems reasonable to assume that, in the absence of appropriate strategies and questions that serve as real-time signals of disturbance, there is an increased risk for covert disturbance in lectures. This view complies with the findings of earlier studies on the importance of such strategies (Mauranen 2006, Airey 2009, Hellekjær 2010). The findings imply that the effectiveness of a speaker of English in academic ELF settings is determined primarily by the speaker's pragmatic ability and less by his/her proficiency. There are important implications of these findings for lecturers who need to operate in ELF settings. First, increasing interactivity by using pragmatic strategies sufficiently frequently appears critical for those involved in English-medium education. It is also important that awareness is raised on target language usage in lecturing in English. Such awareness-raising can be achieved at the macro level by clearly-written language policies that include training for teachers and students who both need to be equipped with the skills needed to cope with the complexities of such settings, and at the micro level, by in-house training and courses that could be administered to both teachers and students.

### **1. Introduction**

European higher education is undergoing a considerable number of changes, triggered primarily by the Bologna process. Universities today advertise multilingual programs and courses on an unprecedented scale, and English is increasingly being used as the medium of instruction, particularly in northern Europe and Scandinavia (Ferguson 2007: 10). The development of additional programs in English is reported to be under way in several countries on continental Europe, allowing participation of students from a wide range of countries.

For universities, this is a profitable enterprise. First, they can recruit more students. Secondly, it improves their public image and chances of competition in the education market. There are idealistic reasons as well, such as promoting multilingualism, creating world-citizens and strengthening internationalization at home (van Leeuwen/Wilkinson 2003: 11). Finally, there are educational reasons, such as offering new degrees. This expansion in the use of English has a number of important advantages: with a common language, student and staff exchanges are much easier, collaboration between universities is livelier than ever, and job opportunities are more numerous.

For students to be able to enjoy the advantages that come with a common language, however, certain adjustments need to be made to the educational settings where English is the medium of instruction. Using a lingua franca as the medium of instruction brings within not only advan-

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<sup>1</sup> See Björkman forthcoming for a more detailed discussion of pragmatic strategies in both lectures and student group-work.

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tages but also certain complications. In this state of affairs, it is important to explore the effect of changing the medium of instruction on the teaching-learning situation, specifically on the everyday practices of lecturers and students. Lectures have a pivotal role in such settings, for they remain the main form of communicating content knowledge to students in higher education. In settings where the medium of instruction is English and where the speakers come from a wide spectrum of first-language (L1) backgrounds, this monologic genre can be challenging for both parties involved.

The present paper, which constitutes part of a larger study, aims to contribute to our understanding of lectures given in lingua franca settings through an investigation of the pragmatic strategies used by lecturers. The study was carried out in Sweden, where studying in English is considered by the majority of students and scholars a prerequisite for an international career. English has been used very widely in Sweden, especially in engineering, natural sciences and medicine since the late 90s (Gunnarsson/Öhman 1997). While references are made to the other parts of the study for comparison, the main focus remains on pragmatic strategies. After a description of lectures from an English as a lingua franca (ELF) setting drawing on qualitative and quantitative data, some tentative recommendations will be made for the adjustment of lectures to lingua franca settings in order to improve the communicative effectiveness of lectures. In addition, the notion of the effective speaker will be discussed.

## **2. Background: Lectures in a second language and lectures in lingua franca settings**

Lecturing in a second language has been the topic of a large number of studies since the 90s. Most of these studies had as their foci the comprehension difficulties caused by the lecturing language and their causes. The reported challenges brought about by using English as the lecturing language ranged from issues caused by proficiency (Flowerdew 1994, Thompson 1994), to vocabulary-related issues (Flowerdew 1994, Thompson 1994), cultural issues (Flowerdew/Miller 1995), and pragmatic issues related to the discourse of lectures (Rost 1994, Allison/Tauroza 1999, Mulligan/Kirkpatrick 2000, Bamford 2000, Hyuk 2003, Crawford-Camiciottoli 2004/2005, Morell 2004).

These studies, and many others which cannot be mentioned here, have contributed considerably to our understanding of the implications of lecturing in English to an international audience. However, most of these studies investigated situations where the lecturers were native-speakers of English who had international audiences<sup>2</sup>, with the exception of a few studies that have included both native and non-native speaker lecturers (e.g. Crawford-Camiciottoli 2004). However, following the introduction of the Bologna process in 1999 and with its implementation in the years to follow, many lecturers now find themselves in situations that are further complicated by the fact that English is *no one's* native language, and lecturers as well as students need to use English as a vehicular language. In this sense, both lecturers and students are novices to the situation. It is most likely that different issues arise when both parties are non-native speakers of English who both need to meet the challenges caused by a lecturing language different from one's own.

A pressing issue that calls for further investigation is, therefore, how effective English is as the lingua franca of higher education. There has been important work with regard to lecturing in English in international settings which has investigated the effects of the lecturing language on the teaching and learning of content (e.g. Klaassen 2001, Wilkinson 2005, Shaw/McMillion 2008, Airey 2009) and the reactions by lecturers and students to content teaching carried out in English (e.g. Hellekjær/Westergaard 2003, Smit 2008/2009, Ljosland 2008, Hellekjær 2010). ELF research that has focused specifically on university settings is, on the other hand, still rather scant, with some investigations of form (e.g. Erling 2002, Meierkord 2004, Ranta 2006, Björkman 2008,

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<sup>2</sup> This was the case for studies from the 90s possible because internationalization had not reached the dimensions it has today.

2009a) and pragmatic issues (Lesznyák 2002, Planken 2005, Mauranen 2006/2007, Hynninen forthcoming, Knapp forthcoming). With reference to form, only a small number of studies have included lectures (e.g. Mauranen 2006, Björkman 2008a and b, 2009a). As regards pragmatics, most of the work has focused on negotiation of meaning and misunderstandings, reporting a general preparedness for potential breakdown in communication and cooperativeness among those who speak English as a lingua franca (Mauranen 2006, Kaur 2009, Smit 2009, Cogo 2009). Speakers in ELF situations make up for the non-standardness of morphosyntax by employing interactive strategies frequently (Kaur 2009), and they negotiate meaning through certain accommodation strategies (Cogo 2009). In terms of the type of speech event, the focus in these studies has been dialogic speech only.

Monologic speech, however, differs from dialogic speech in many aspects. The most important difference between monologic and dialogic genres is the lack of affordance of monologic speech as regards pragmatic strategies. Dialogic speech allows itself to the negotiation of meaning readily whereas monologic speech requires listeners to focus on long stretches of talk with few opportunities, if any, to negotiate meaning. This important difference between monologic and dialogic genres becomes even more critical for lectures in ELF settings where there are several complications with regard to form, speakers' varying language proficiency and different L1 backgrounds. This calls for more research on lecturing in ELF settings.

### 3. The present study: Setting and methods

The present investigation reports from a large technical university in Sweden, which produces a major portion of the country's engineers. In the university's 'policy of internationalization' report from 2007, "communicating effectively in English" is mentioned as a goal. English is used extensively in this setting, to allow for academic mobility of students and scholars and to prepare students for the global job market, among other reasons. Consequently, there is a large number of exchange students and foreign scholars in this setting who all face a variety of tasks that they need to complete through the medium of English. English is also the language of instruction in the third and fourth years of many programs, and it is the only language of instruction in international Master's programs at higher levels.

The material used for the present study comprises 21 lectures of a total of 42 hours and 44 minutes, given by 13 different lecturers. Because the present study reports from an unexplored ELF environment with the aim to contribute to the existing knowledge of ELF in general and usage of English as the medium of instruction, it was necessary to use a large sample of recordings that would enable making general deductions from this environment. Keeping this in mind, first extensive, and then intensive analyses were carried out, forming the two-phase nature of this study. The large corpus was analyzed extensively for non-standardness of morphosyntax in the speech events; all the cases of morphosyntactic non-standardness were transcribed and categorized. To have a closer look at the pragmatic strategies used by the lecturers, four lecture recordings given by different speakers were fully transcribed and investigated, resulting in a corpus of 46,662 words. The corpus was subsequently analyzed for types of pragmatic strategies used by the lecturers. The focus here will be predominantly on lecturers' use of such strategies, but references will be made to other parts of the investigation for comparisons with student usage, to highlight skills lecturers need to develop when lecturing in a lingua franca.

An essential preliminary here is the main finding of the earlier stages of the present study. The present investigation focused in its earlier stages on non-standard morphosyntax produced by lecturers and students in this setting. Interestingly, the extensive analyses of the large corpus showed that the commonalities of non-standard morphosyntax caused very little overt disturbance in communication, and when there was overt disturbance, it was caused by some cases of non-standard question formulation (Björkman 2008a/2009a and b). So, with the exception of question formulation, the different types of non-standard morphosyntax, including some basic types of deviance from standard forms (e.g. subject-verb agreement issues), did not seem to prevent the speak-

ers from communicating effectively. Similarly, in student group-work, despite the more frequent morphosyntactic non-standardness and disfluencies compared to lectures, the students seemed to communicate effectively without much disturbance. What they did was use a variety of pragmatic strategies, e.g. repetition, frequently in an effort to arrive at mutual communicativeness. That communicative strategies are invaluable in the communication process finds support in the findings of earlier ELF research on pragmatics, which have maintained that such strategies play a major role in preventing misunderstandings, clarifying subject matter and negotiating meaning (Mauranen 2006, Kaur 2009, Cogo 2009). It was, therefore, of interest to find out to what extent the lecturers were making use of the same strategies to prevent disturbance in communication, which constitutes the present study.

It should be borne in mind that the type disturbance the present paper investigates in connection with pragmatic strategies is *overt disturbance* (discussed in Mauranen 2006 as ‘retrospective misunderstanding’), i.e. the observable breakdown of communication signaled by direct questions, repetition of unclear items, silences, requests of clarification. To be able to make claims concerning covert disturbance would require detailed knowledge of the subject matter and a close look at the students’ production, e.g. lecture notes, exam results.

#### 4. Results

The present study investigated pragmatic strategies some of which have previously been reported as useful and communication enhancing strategies in other studies (e.g. Penz 2008), i.e. commenting on terms and concepts, on the content of task, on discourse structure, and intent. Signaling importance, repetition strategies and questions have also been included in the study. Signaling importance is clearly vital to comprehension, and it was relevant to the present study to investigate how lecturers signaled importance. Repetition is another strategy that can be used to emphasize important points in a lecture. Since repetition can also be caused by disfluencies, which is not a strategy, it was important to divide it into three subcategories, namely, repetition for emphasis, repetition caused by disfluencies and repetition of others’ utterances. Finally, questions were investigated. These can increase interactivity in a lecture, which on its own can act as a strategy for facilitating comprehension. Table 1 below shows the number of cases of the pragmatic strategies from the four lectures. The figures have been normalized (per 10,000 words) due to possible differences in speech rate.

PRAGMATIC STRATEGIES		L1	L2	L3	L4	Σ
Comment on terms and concepts		7	2	9	1	19
Comment on content of task		0	45	18	24	87
Comment on discourse structure		2	16	8	7	33
Comment on intent		29	31	25	17	102
Comment on signaling importance		5	7	6	9	27
Repetition	Emphasis	0	17	27	3	47
	Disfluencies	10	63	23	75	168
	Other	2	3	0	1	6
Questions		16	7	11	9	43
Σ (excluding repetition caused by disfluencies)		61	128	104	71	364

Table 1. The pragmatic strategies used in four lectures. The numbers show normalized figures. ‘L’ stands for ‘Lecture(r)’

Let us now turn to examples of each item in Table 1 above. The examples have been taken from the transcripts, following the transcription forms (see Appendix 2), along with the codes used for each speaker, e.g. L1: Lecturer 1.

The first of the strategies investigated in the recordings was **commenting on terms and concepts** that were relevant to the subject matter. At times, the lecturers explained certain terms to their students, as in (1)–(6) below<sup>3</sup>.

- (1) <L3> **pyrolysis** basically is heating up quickly of hydrocarbon solid hydrocarbon with the absence of air </L3>
- (2) <L3> **flash pyrolysis** is the quick pyrolysis that is able to use the most fraction and the biggest fraction of the fuels </L3>
- (3) <L2> this reaction this particular reaction is **exothermic** so we have a difference here in energy levels , we have a lower level product we could either run this reaction homogeneously in the gas (xx) and that </L2>
- (4) <L3> you maybe already know **biogas** is a product of anaerobic digestion so please do not confuse the terminology try to be consistent with using the proper terms biogas is not a product of biomass gasification some people usually often not usually but they address gasified biomass with biogas , biogas should be used if we need to be consistent </L3>
- (5) <L3> what actually the steps the typical steps of hydrolysis the **hydrolysis** is the typical er , the , breaking of er bigger molecules into smaller ones such as sugars it's not only sugars but fat and er er amino acids er and er proteins </L3>
- (6) <L4> i will explain in a few seconds what **green certificates** are , it's green pricing and you can sign up all over the world for green pricing that means i am a special customer i don't want to have this and this electricity i want to have only electricity from wind power you can even buy this one here in sweden </L4>

Another way the lecturer can create explicitness for the student is commenting on discourse content and intent by the labeling of speech acts, i.e. by spelling it out what it is the lecturer wants to do (7)–(10):

- (7) <L1> **i am not sure** if you learned this in some other courses </L1>
- (8) <L1> **i would like to** continue </L1>
- (9) <L3> **i would really would like to focus** there on the european part because the eu is taking these things very seriously </L3>
- (10) <L4> **i just want to** give you some kind of idea how the current system is working </L4>

A particularly useful strategy in lecturing is the lecturer's explicit **signaling of the discourse structure**. This can be done 'prospectively', i.e. by pointing forward in the lecture, as in (11)–(16), or in a series of lectures as in (17) and (18):

- (11) <L1> **we will start** the third iteration of the loop </L1>
- (12) <L1> **i'll show you** what i mean </L1>
- (13) <S1> **i would like to move on to** branch prediction ok so moving onto branch prediction </L1>
- (14) <L2> and **i will try to tie this together** by talking about diffusion </L2>

3 See Appendix 2 for ELFA transcription Guide, which has been used in the present study.

- (15) <L3> part **we will concentrate now is** how to make fuel out of biomass direct combustion goal the first step is gasification of biomass now we start from a solid fuel and gasify it </L3>
- (16) <L4> **i will talk about this** a little bit later </L4>
- (17) <L3> **we will see this** in other courses that </L3>
- (18) <L2> and that is exactly **what we are going to do** with this part of the course </L2>.

Lecturers also referred to a previous part of the lecture and signaled the discourse structure ‘retrospectively’, as in (19)–(24), or to previous lectures as in (25) and (26):

- (19) <L1> **so we go back here** </L1>
- (20) <L1> **we’re back** here </L1>
- (21) <L2> **so as i said** </L2>
- (22) <L3> this is **as i already mentioned** a very very commercial way to produce hydrogen </L3>
- (23) <L4> and **i indicated already last time** </L4>
- (24) <L4> ok **coming back to** the fixed quotes combined with green certificate trading </L4>
- (25) <L2> some of you **have already seen** this one in the third program third year course </L2>
- (26) <L3> you **have already been talking about** in various other courses gasification you already talk about in other courses . you have already been talking also about pyrolysis at least with <NAME> last lesson </L3>

In some cases, the lecturer signaled the discourse structure retrospectively to summarize for the students what they had done, as in (27) and (28) below:

- (27) <L1> where were we **we have executed** two, no that’s wrong we haven’t executed anything yet but **we have issued** two complete i iterations of this this small loop , nothing has been executed really because the memory unit hasn’t delivered load data </L1>
- (28) <L2> **we now produced** the b </L2>

Highlighting the critical points of a lecture is another useful strategy that can be used by the lecturer, especially when practiced by using words students are likely to be familiar with, such as “important” (29)–(31), “main+ (noun)” (32) and (33), and “remember” (34) and “forget” (35):

- (29) <L2> i would say the heat exchange is **very important** </L2>
- (30) <L4> some other **very important** thing is actually you have to connect wind turbines whenever possible </L4>
- (31) <L2> this is just to relate to the adsorption on the surface which i think is **important** to relate to </L2>
- (32) <L4> but **the main reason** is that nfffo prices were fixed for fifteen years </L4>
- (33) <L2> and this is **the main discussion** at the moment </L2>
- (34) <L4> please please **remember** that the (overall) reaction is something like that you know it’s a very typical way of representing an overall structure of cellulose or typical organic material </L4>
- (35) <L4> You should **never forget** that there is oxygen molecule already </L4>



Another pragmatic strategy, in addition to the preceding strategies, is repetition. Repetition has been reported as useful practice in increasing students' comprehension of lectures (Morell 2004, Chiang/Dunkel 1992). It is different, however, from the other strategies here with respect to its nature: it is a formal category. As mentioned earlier here, it was divided into three sub-groups in the present study: repetition for emphasis, repetition caused by disfluencies and repetition of others' utterances. For the purpose of the present paper, repetition of an item for emphasis is particularly interesting, showing the participants' efforts to make things explicit. The repetition found in the lectures concerned the intensifier "very" as in (36)–(39) below:

- (36) <L1> it could be **very very** small part </L1>
- (37) <L2> that's the **very very** difficult of a biomass gasification process </L2>
- (38) <L3> upgrade it liquid to gaseous fuels and the **very very** commercial standard process of today </L3>
- (39) <L3> that's why we cannot use really hydrogen now because it's a **very very very very** poor energy per volume ratio </L3>

Repetition of others' utterances, in the case of a lecture students' utterances, is also interesting since repeating a student's utterance can be used as a strategy to raise significant issues regarding content or clarify matters to the whole group, such as in (40) and (41) below:

- 1 (40) <L> apart from the catalyst isn't life just about chemical reactions  
2 are there anything more in life , is there </S1>  
3 <S> **mixing** </S>  
4 <L> **mixing** very good point </L>
- 1 (41) <S> i have a question you showed the picture of the pentium four </S>  
2 <L> yes </L>  
3 <S> erm , the err what is it called <FOREIGN> alltså efter  
4 instruktionen , jag kommer inte ihåg (after the instruction, I don't  
5 remember) </FOREIGN> <P:05> </S>  
6 <L> this picture </L>  
7 <S> yeah , **reorder buffer** </S>  
8 <L> **reorder [buffer]** </L>  
9 <S> [where is that] , is that in this picture </S>  
10 <L> where is the **reorder buffer** mhm <P:23> it's not there </L>

In (40) above, the lecturer repeats the student's answer "mixing" for everyone to hear (line 4). In (41), the lecturer repeats the key term "reorder buffer" in the student's question (lines 8 and 10). It is not easy to ascertain whether he uses repetition as a pedagogic strategy or not in (41). He may be doing so to gain time to find where the reorder buffer is in the picture, signaled by the 23-second pause (line 10). Nevertheless, the audience hears the keyword a number of times, which is likely to result in heightened emphasis.

Finally, we will consider questions raised in lectures as they have been reported as organizational devices and comprehension checks in lectures (Thompson 1998, Bamford 2005, Flowerdew/Miller 1997: 40, Morell 2004: 328, Camiciottoli 2005: 189) and as important aspects of academic monologues (Thompson 1998). By asking questions, the lecturer can point to what is important, organize the lecture into relevant sections and raise the interactivity of a lecture. To be able to look at the different functions of questions, we should differentiate between different types of questions.

In the present study, only content-oriented questions were considered, since the aim of the paper is to discuss communicative effectiveness and to look at interactivity on the subject matter (cf.

Thompson, who considers both audience-oriented<sup>4</sup> and content-oriented questions). There were genuine questions, as in (42) and (43), and rhetorical questions, such as in (44) and (45):

- (42) <L1> **why do you think we use catalysts** , in the first place , do you have any idea about that why would we use a catalyst </L1>
- (43) <L2> why is that why can it can it stick to the **why can't it stick to the surface** . what do you say </L2>
- (44) <L3> that's considered a bad idea and **why is it a bad idea** well, branches occur frequently so it will , very quickly happen that , the processor will have to branch another time here </L3>
- (45) <L4> biomass cannot supply totally all fuel and food needs of the generation population in the world **why** because biomass is a solar energy </L4>

Genuine questions are those through which interactivity of a lecture can be improved (e.g. 42 and 43 above) since the lecturer expects a response to the question. Rhetorical questions, on the other hand, serve as organizational elements by which the lecturer can emphasize points of importance, such as in (44) and (45), regardless of a response. They can also certainly be used to increase interactivity, depending on how much time the lecturer allows the audience for a response. In the present material, they were used as organizational elements without any time for the audience to respond, as in (43) and (44) above. Table 2 below shows the percentage of questions asked by the students (Qs) and lecturers (QLs). It distinguishes rhetorical questions (QRLs) from genuine questions asked by the lecturers (QGLs).

QUESTIONS		L1 N=16	L2 N= 7	L3 N= 11	L4 N= 9
Qs %		4 (25%)	0	2 (18.2%)	7 (77.7%)
QLs %	QGLs	6 (37.5%)	3 (42.8%)	0	0
	QRLs	6 (37.5%)	4 (57.1%)	9 (81.8%)	2 (22.2%)

Table 2. Questions asked by the lecturers (QLs) and the students (Qs) in the four lectures along with the rhetorical questions asked by the lecturers

From the figures in the preceding table, it is clear, first of all, that questions are not very frequent in lectures, constituting only a minority of the utterances. The four lecturers seem to have asked and answered a limited number of questions (N=16 in L1, N=7 in L2, N=11 in L3, N=9 in L4). Second, among all the questions raised, 13 were raised by the students. Another observation deals with differences in teaching style; we see from the figures that lecturers L3 and L4 asked only rhetorical questions, unlike L1 and L2 who asked equal numbers of genuine and rhetorical questions.

The aim here was not to give statistical information or study individual differences in lecturing styles, as this would require a much larger sample but to give a relatively general overview of four lectures from an ELF setting.

<sup>4</sup> An example of an audience-oriented question from the present material is "Can you see properly from back there?" (L3).



## 5. Discussion

ELF settings are inherently challenging for all parties involved. Using another language than one's own for high-stakes communication requires heavy investment in the communication process. Among the challenging genres where speakers use English as a lingua franca is the monologic genre of lectures. There are surely a number of ways to make lecturing more effective, such as using effective visual aids (e.g. Klaassen 2001), appropriate speech rate and fluency measures (Airey this volume) etc. The present paper investigated an important aspect of lecturing, namely using pragmatic strategies, which have been reported as critical elements in avoiding communicative disturbance and achieving effectiveness in ELF settings (e.g. Mauranen 2006, Kaur 2009).

The results of the present study show that, insofar as it can be ascertained from the data, lecturers in the present ELF setting make relatively little use of pragmatic strategies, compared to students in the same setting (Björkman 2009a and b). In addition to the pragmatic strategies, questions do not have a high frequency either, which corroborates the findings of another study that investigated questions in academic monologues on two different disciplines, namely applied science and linguistics (Thompson 1998). Interestingly, questions were found to be about 15 times more common in language lectures compared to applied science lectures. It can be suggested then, with some degree of justification, that pragmatic strategies in general are not very common in engineering lectures where English as a lingua franca is the medium of education (see Table 1). Although the investigation was carried out in a Swedish setting, which may be seen as a setting where most speakers are proficient in English, the speakers had varying degrees of proficiency and they all used English as the common language, which suggests that the results here are applicable to other ELF settings. Essentially, research from any ELF setting is of interest to other ELF settings, as speakers come from different L1 backgrounds and communicate with varying degrees of proficiency.

From the results of the analyses, a number of implications emerge, first, for lecturers, with regard to the adjustment of lectures to lingua franca settings, and second, for all speakers in general who operate in lingua franca settings, as to what constitutes an *effective speaker* in lingua franca settings.

One thing lecturers can do to adjust lectures to ELF settings is to try and make use of more pragmatic strategies, which in turn makes lectures more interactive. We now turn to ways in which lecturers can increase interactivity in such academic lingua franca settings.

### 5.1. The adjustment of lectures to lingua franca settings: increasing interactivity in lectures

Monologic events, where the listener has very few opportunities, if any, to check his/her own understanding, are where misunderstandings and general comprehension problems are most likely to occur. As regards what can cause covert disturbance in lectures, it is very difficult to make any definite claims. However, knowing what works in group-work despite all the complexities of the situation, we can aim for similar strategies and increase interactivity in lectures. Therefore, it is recommended that lecturers in lingua franca settings create as many opportunities as possible for the use of pragmatic strategies.

The main aim of the present paper has been to show to what extent lecturers in the material compiled used pragmatic strategies in their spoken discourse. The same strategies were found to play a major role in preventing misunderstanding and boosting comprehension in dialogic speech in academic settings (Björkman 2009a), which is supported by other existing research on ELF usage (Mauranen 2006, Kaur 2009, Cogo 2009). A plausible generalization is that the strategies mentioned here are useful for lecture comprehension as well. In other words, by increasing interactivity in lectures, it is possible to make lectures more dialogic than monologic, creating opportunities for the negotiation of meaning and clarification.

The importance of using pragmatic strategies (e.g. Mauranen 2006/2007) and the difficulties non-native speaker students have with understanding the structure of lectures (Mulligan/ Kirkpatrick 2000) have been previously discussed. The interactivity that pragmatic strategies bring into the speech event and the proactive work that enhances understanding and prevents misunderstanding have been reported as very useful communicative behavior. In an experimental study, significant changes were observed in student participation after the lecturers made their lectures more interactive and changed their lectures by using more macro-markers (i.e. starter, elicitation, accept, attitudinal, metastatement, conclusion, as classified by Murphy/Candlin 1979), questions and negotiation of meaning (Morell 2004: 335). This is supported by students' own responses from a recent study, where students in English-medium engineering lectures rated lectures in terms of comprehensibility. The lectures that were rated higher and reported as "most comprehensible" were those where the lecturer had made use of a number of interactive features, e.g. questions (Hellekjær, this issue).

The pragmatic strategies that have been investigated in this study are pragmatic comments to explain terms and concepts, to give details about the content of the task, to give information on the discourse structure and context, to make intent clear and to create common ground. Along with these strategies, repetition, questions and signaling importance have been included in the investigation. Especially summarizing strategies, looking ahead and signaling what is to come, (both briefly discussed in Mulligan/Kirkpatrick 2000: 317), and helping the listener orient himself/herself by making the discourse structure clear, are very helpful to the listener.

The strategies mentioned in the present study are clearly strategies that any good lecturer should consider. Advice given in another study that investigated successful classroom discourse for non-native teaching assistant training is in agreement with the advice provided in the present study:

- a. Naming processes
- b. Overtly marking major points, both to evaluate and reinforce student achievement
- c. Developing cohesion and continuity within and between classes by repetition and "linking talk"
- d. Explicitly organizing topics and marking topic change
- e. Stating the scope of the students' responsibility
- f. Using questions in a timely fashion
- g. Using persuasive techniques

(Rounds 1987: 666).

Another source of a more general nature on the importance of informative speaking (Samovar/Mills 1995: 284) lists repetition as an important feature of informative speech, as Rounds does in (c) above. In order to contribute to clarity and deliver the intended information, those who prepare informative speech, e.g. lecturers, are advised to consider definitions, reinforcement and emphasis, noting what is upcoming, referring to the familiar and summaries carefully among other things (Samovar/Mills 1995: 290-305).

Among the seven items in Rounds's list on communicatively competent teaching discourse, there are five strategies that have been found as probably increasing communicative effectiveness in the present study: a, b, c, and d, respectively, naming processes, overtly marking major points, developing cohesion and continuity by using linkers and repetition, organizing topics and marking topic change overtly. In addition, the four features the latter source mentions have all been found as strategies used by the lecturers in the present material (see also Hellekjær this volume).

Item (f) in Rounds's list deals with questions. Using questions has been considered an involvement strategy as speakers can establish interaction with their audiences through questions (Thompson 1998: 138, on including questions in Tannen's general category of involvement strategies, 1989). Several researchers, including some earlier work, have remarked on the usefulness of questions in establishing contact with the audience and increasing interactivity (Biber 1988, Thompson 1998, Fortanet 2004, Crawford-Camicciottoli 2005, Bamford 2005) and the low fre-

quency of questions in science lectures in comparison with language lectures (Thompson 1998). Even when the question is rhetorical, the audience is involved instead of a pure monologue. Observe extract (46) below:

- (46) <L> biofuels they cannot supply totally all fuel and food needs biomass cannot supply totally all fuel and food needs of the generation population in the world **why** because biomass is a solar energy at the bottom right it's a concentrated solar energy **what is the efficiency of that** we will look at it more in the energy and environment course actually photosynthesis is the one that produces all the the process that produces biomass out of solar energy and inorganic materials (it's) very very poor in efficiency and then you don't have really land enough to support a country or to produce let's say energy in the world just by biomass or by solar energy via photosynthesis they actually use in berkeley solar energy in some way with higher efficiency still if you do have biomass in places like sweden for example with forestry region er erm forest forest areas or in other places where the biomass is already available in some way the best way to utilize this is to convert it to liquid and gaseous fuels and **why is that** because the gaseous (xx) have the most the highest grade mass they are the most the highest quality ones if you have liquid or gas you can burn them in any way you want you can burn them in any engine you want if you have coal or solid biomass you can't burn them in any gas turbine </L>

As can be seen, Extract 46 includes rhetorical questions, adding to the interactivity of the lecture and also serving as signposts for the listener.

The strategies covered in the present paper are by no means *sui generis*; they are naturally strategies all lecturers use in varying degrees. However, in settings where English as a lingua franca is the medium of instruction, with the added complications of non-standardness in a number of dimensions, e.g. morphosyntax, pronunciation, disfluencies, it is even more important that these strategies are used, and that an awareness of such communicative competence is raised among lecturers who use English as a vehicular language.

## 5.2. Being an effective speaker in ELF settings

Possibly the most important implication of the present study is its definition of an effective speaker. What has been discussed here and the results of the initial stages of the present investigation indicate that an effective speaker in ELF settings is a speaker who employs appropriate pragmatic strategies frequently in his/her speech to create transparency for the listener. Unlike what seems to be generally presumed in such settings, high proficiency does not ensure communicative effectiveness (Hellekjær this volume, Klaassen this volume). In other words, lecturers who are highly proficient in English do not necessarily make good lecturers unless they make frequent use of communication-enhancing pragmatic strategies. There is empirical support for this. A study carried out in Norwegian higher education showed that English-medium lecturers in Norway assumed that it was mostly exchange students who had problems with English-medium education and not the Norwegians, who are generally highly proficient (Hellekjær 2007). However, in a follow-up study, Hellekjær (2010) found no statistically significant differences between the Norwegian students and the exchange students in terms of comprehension difficulties. The situation is similar in most Northern European countries, e.g. in the present setting Sweden. It must be conveyed to both lecturers and students that operate in lingua franca settings that being highly proficient in English does not suffice to be an effective speaker. It is certainly true that those who have a good command of English will enjoy the advantages this brings in a number of areas, e.g. fluency, accuracy and language complexity. However, when in interaction with speakers from a wide range of levels of proficiency, those who are more proficient speakers need to seek ways to communicate effectively with those who are not equally proficient, and that adaptation of one's language to the situation and the speakers in that particular situation is necessary.

So, a speaker can be highly proficient, or may even be a native speaker, but if s/he does not use enough pragmatic strategies when addressing an international audience, the message may get lost. Similarly, a speaker may have difficulties in the form dimension and produce non-standard morphosyntax, but be effective in conveying the message across by using appropriate pragmatic

strategies, as the results of the initial stages of the present study demonstrated (Björkman 2008a and b/2009a and b). The proficient/less proficient or the native/non-native speaker dichotomies, therefore, are not of primary relevance in international settings.

In his discussion of academic writing, Ferguson plausibly argues that both native and non-native speakers are “novices” in acquiring academic (writing) skills:

With regard to the acquisition of this specialised competence, the native speaker and the non-native speaker both start out as novices, a position of parity that the native/non-native dichotomy obscures, but that is noted by some of the editors from Flowerdew’s (2001) study, who remark that many of the problems of Hong Kong/Chinese authors are shared by their native speaker counterparts (see also Swales, 2004). This is not to say that native-speakerhood confers no advantage at all. It may do so with particular regard to intuitions of grammaticality [...]. The key dimensions of difference, then, are not so much native or non-native speaker status as expertise (novice or expert) and proficiency, the significance of the latter being underscored if one bears in mind the frequency with which so-called non-natives display greater facility in academic writing than natives, whose performance levels are in fact very variable. (Ferguson 2007: 28)

A similar argument can be made for academic speaking in general, including lectures. It is argued here that being proficient in the language does not presuppose that one is also a pragmatically effective speaker. In settings where English is used as a lingua franca, communicative effectiveness takes precedence over language complexity. Any speaker may aim for better accuracy, fluency and language complexity, but when it comes to investing in a communicative situation, pragmatic strategies play an important role in helping speakers produce the desired outcome, i.e. be communicatively effective. It should be noted, in this regard, that effectiveness in ELF settings seems most strongly associated with one’s pragmatic ability and less with one’s level of proficiency.

This point has implications for teaching and for any support program that aims to aid English-medium teaching. It is important that awareness is raised on what should be the target language usage in ELF settings and what makes a speaker effective, which has been one of the implicit aims of the present study. Such awareness-raising can be achieved at the macro level by clearly-written language policies that include training for teachers and students who both need to be equipped with the skills needed to cope with the complexities of such settings, which is beyond the scope of this individual study, and at the micro level, by in-house training and courses that could be administered to both teachers and students.

## 6. Conclusion

In this paper, the focus has been lectures given to international audiences with the aim to add to our understanding of these monologic speech events. In the pursuit of this aim, the material has been analyzed in terms of pragmatic strategies that have proven useful communicative behavior in dialogic speech in international settings. It is hoped that the paper adds to our general understanding of lecturing situations in lingua franca settings. A future follow-up study will focus on comparing lectures with varying degrees of interactivity and use of communication-enhancing pragmatic strategies, in an effort to obtain more information on how to ensure effectiveness when lecturing through the medium of English.

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## Appendix 1

Sample transcript of a lecture from the present setting

LECTURE: PTLA-021006  
 NO OF SPEAKERS: FIVE  
 S1: SWEDISH, THE LECTURER  
 S2: STUDENT, SWEDISH  
 S3: STUDENT, SWEDISH  
 S4: STUDENT, SWEDISH (L2)  
 S5: STUDENT, SWEDISH (L2)  
 NO OF PARTICIPANTS: 20  
 NATURE OF STUDENT BODY: MIXED  
 RECORDING DURATION: 43:26 (ONE LESSON)

<S1> the slide going to be but hope you will you can see the pictures anyway er i will hand out er lecture notes , and, you will also always see this on er the bilda system on (X) webpage where you get all the course materials </S1>

<S2> will you also hand out </S2>

<S1> i will always hand them out with the lectures there will be two lectures in this part of the course , er called heterogeneous reactions and i will cover mostly three chapters in the (NAME) book , chapters ten to twelve in the fourth edition so if you have an older edition please send e-mail to me and i will i will give you the er instructions on how to read this but a good idea for this part or for any part of the course is to (relate) to the study guide the study guide you can find everything all the objectives for the course or the objectives for every part even objectives for every lecture in this part actually , so as i said <COUGH> i will talk about heterogeneous reactions but i will focus on catalysis as a certain part of these heterogeneous reactions actually it is one of my favorite re research subjects and maybe it's (xx) i will show you <PREPARING OVERHEAD 0:05> ok , i work personally my research is focused on on er catalysis for (optimality) applications in that sense i work with trying to reduce emissions and trying to er also conserve energy in in certain ways on how to for example abatement of hydrocarbons or nitrogen oxide or something i also work with fuel cell applications and if i am going to succeed with this with my mission my vision or objective with with my research i have to design catalytic systems and that is exactly what we are going to do with this part of the course , we are going to start with the catalyst , it could be very very small part and we will extend it to an whole reactor system which could be very very small or large so we will go all the way from very small systems up to industrial systems and <TURNING THE PAGES OF THE BOOK> <COUGH> if i , take the help , of er an old brilliant scientist called <NAME> he worked at the german company basf and he has claimed that chemistry without catalysis would be a sword without a handle light without brilliance or a (xx) without sun with poetic statement from <NAME> and i agree of course because i basically i am doing science in (xx) catalysis er of course it's not only a question of science here it's also a question of money we have to earn money and why do you think we use catalysts , in the first place , do you have any idea about that why would we use a catalyst . <FOREIGN> varför ska man använda katalisator </FOREIGN>, is there any point you get a much more complicated system actually much more sensitive system so why would we use a catalyst . well it's not really totally obvious but one thing is er which i will explain soon is that using a catalyst er you will normally decrease the reaction temperature and decreasing reaction temperature means you save money you save energy i also one thing which is very important er from an industrial point of view is that you normally will end up with a more selective system meaning that you will produce less by-products . and this is just a sketch which i borrowed from a textbook from <NAME OF BOOK> from <NAME OF BOOK> showing that catalyst involves in ten trillion dollars of gross world production or gross mass product or something and is everything connected to clothing plastics building materials fuels of course eating transportation and our and i would say that

this is a really big part for catalysis both both for producing the fuels and also to clean up the trucks and buses and cars and so on and there is there is really some interesting success stories, so for the course schedule we will start with the general concepts today i will talk a little about mechanisms and (xx) i will talk about how we can relate this to reactor design because that's like the ultimate goal for using this type of calculations, to put the catalyst in a reactor and that of course involves other parts and which other parts could that be could be interesting in the design of catalytic reactor, apart from the catalyst isn't life just about chemical reactions are there anything more in life, is there </S1>

<S3> mixing </S3>

<S1> mixing very good point i am actually in in my one of my research projects we are facing now major mixing problems so that's a very good point, it sounds very easy we want to mix diesel we want with steam and super-heated air sounds very easy but it's not very easy because that way we like to feed this into a catalytic monolith er next time i will bring samples of catalysts today i had a lecture in the morning and it was really too much to carry with all the papers so i'll i'll next lecture i'll bring some samples you can see no it's a very good point the mixing and something more, are there anything more the the interesting, except for the catalyst itself if you want to design (x) what's that <P:05> i would say the heat exchange is very important clear physical process but will really influence your catalyst because if you have a chemical reaction on the surface which is actually which is totally what it's about it's about chemical reactions on the surface for example like you design this thing here with the catalyst on it and if i put platinum on the surface it will look like this it will be like and we could use this for let's say a (xx) or something, so reactants could absorb on the surface but normally they won't react in on room temperature so that's the bad point i have a system though which works at room temperature i am combusting hydrogen with air at room temperature it's amazing reaction with a catalyst, but normally you have to heat the surface so how will we heat this one of course we have to use some kind of heat exchange or direct either direct or indirect, so we have heat exchange, we have the mixing part, and connected to the mixing part er it's normally the transport phenomena anyway er how to calculate the (xx) number how to calculate the pressure drop how to calculate piping how to package everything i am also into project where we try to package a system so it's where we have a really tight we have a certain volume that we can work with and we can't go outside this volume so we have a certain volume and we try to pack things in and try to be very compact, and this is the the bad part here for a catalyst scientist actually the catalyst they could die they could be sick they could really die the (xx) get sick and we have to throw them away sometimes we could we can do er rejuvenation or we could treat the catalyst so we could get back the same activity but sometimes it's (xx) is fatal er then we have external resistance to mass transfer and that's totally connected to what you studied in transport phenomena and here is a thing which you normally don't care about i mean in the chemical reaction <COUGH> mass transfer and we will take an example from mass transfer limiting reactions in packed beds and we will use this in the first classroom problem in this section of the course to design a system for cleaning cleaning effluents from chemical reactors er so that's a bit special, and that's on the twenty-fifth of october, the classroom problem hopefully i will now use is that the correct number now does anybody have the course schedule cause we change these numbers several times </S1>

<S4> the seventh </S4>

<S1> the seventh so this is not right then ok sorry, i'll check because we changed it in the last minute i think </S1>

<S4> yeah </S4>

<S1> ok so it's seventh ok so we changed the number of the classroom problem anyway it doesn't matter, i will talk waste gas treatment then er the last lecture on (xx) which is an interesting model which you can apply in various areas of research and technology for example if you combust coal particles or it could be used in medicine in pharmaceutical engineering and i will try to tie this together by talking about diffusion and reaction in at the same time in porous systems so

we have the external mass transfer we have the internal mass transfer or the (xx) and we have a reaction on catalyst circuits, and the last classroom problem which then should be number eight in that case or we try to tie the entire section together so I really recommend this classroom problem, at least for some of you you will be like wow is it like this yeah, hopefully that will be your reaction anyway ok, let's take some examples on heterogeneous reactions <COUGH> we have the first catalytic reaction, but not all not all reactions are catalytic, this is the typical process example when we combust S O two and (xx) S O three and as you probably know if we dissolve this in water we get sulphuric acid and sulphuric acid is a commodity or which is sometimes called the (queen) of chemicals you can relate the gross national product of a country to the production of sulphuric acid </S1>

<S5> it is the (xx) reaction I think </S5>

<S1> yeah that's right this is not entirely correct could go could go the other way that's correct it depends on how (xx) the reaction is that's a good point or so this this this process or contains a lot of different tricks how to write it could also be a non-catalytic reaction like the combustion of coal and it's not really entirely correct either because coal contains also hydrogen but not hydrogen coal but let's say we have coke let's say coke is mostly mostly carbon carbon plus oxygen you get carbon dioxide and we have gas this is a typical non-catalytic reaction, gas liquid reactions like carbon dioxide and a (xx) solution will be a carbonate water but as I said we will concentrate on the catalytic reactions, or typical what's typical about the heterogeneous process well the most difficult thing will be, that involves more than one phase if you have a homogeneous reaction that's normally you have a liquid and then you dissolve your catalyst into the liquid so it's a very nice system you have everything there in the same phase or heterogeneous process you almost always have a solid catalyst and you either have a gas or liquid, or you have three phases at the same time you have gas liquid and catalyst could be like a triple configuration or one thing is the good point here is that the very simple and complete separation of the fluid of the product mixture from the solid catalyst if you have a homogeneous process it's very very tricky to separate or the catalyst from the the product solution or there's a large petro-chemical process where they use rhodium as a catalyst it's very very costly catalyst and you have to and very sophisticated separation process to do it but on the other hand it's a very <COUGH> very nice process it's very efficient so or you would normally try to go from the homogeneous process over to the heterogeneous process, there was actually an example of a sulphuric acid process which was run homogeneously or or from the eighteen sixties eighteen seventies for example in this country we always try to talk about Alfred Nobel and he was running this process south of Stockholm here at Vinterviken so that was a homogeneous process and or there were others or innovating innovators such as or <NAME> for example studying the heterogeneous process, ok this is typical sketch I use to show and this is a really the principle of heterogeneous catalysis and some of you have already seen this one in the third program third year course or basically what it comes down to if you look at this this curve here we have a potential energy and here some kind of reaction coordinate we start at some point and we will we will run the reaction and this reaction this particular reaction is exothermic so we have a difference here in energy levels, we have a lower level product we could either run this reaction homogeneously in the gas (xx) and that will get that really requires a lot of energy you really need a lot of energy to run this reaction and we have to pause this activation energy level to be able to do that or for example my sample is or if you take the atmosphere in this room here it contains nitrogen and oxygen so we could we could get this nitrogen oxygen to react react to nitric oxide if we take a lot of energy to do it, if we instead have a catalyst we could do the same thing we get a more complicated or but as you see at a much lower energy level so that's basically the the what it all comes down to <COUGH> so some some people would say that the catalyst if some if someone pathfind it like in the old Indian books they always have like a pathfinder to find the right path or and some people would say that the catalyst is a marriage counsellor like in Chinese you have the same name for catalyst as a marriage counsellor and that's a that's a very good point I would say both of them are quite good so this marriage

councillor brings together reactants on the surface and creates a nice atmosphere so these molecules start to interact and react with each other or so the better path also we create better or nicer atmosphere you probably heard the word personal chemistry which people talk about at least in industry this picture is taken from the <NAME> book and it describes the seven steps heterogeneous catalytic reaction if we let's take let's take catalytic pallet particle which is porous it's full of pores or and let's say that we transfer to active aid to the outer surface surface to the external surface of this pallet this particle so then we have external mass transfer next step would be to transport reactor from the form of into the here into the surface in the pores so the pores that's where we have the real large surface area .....

## Appendix 2

ELFA Transcription Guide (7/2004)

<http://www.uta.fi/laitokset/kielet/engf/research/elfa/data.htm>

- Utterances
  - Utterance begins: <S1>
  - Utterance ends: </S1>
- Speakers
  - Unidentified speaker: <SU>
  - Uncertain speaker identification: <SU-1>
  - Several simultaneous speakers (usually laughter or sth): <SS>
- Uncertain transcription: (text)
- Unintelligible speech: (xx)
- Laughter: @@
  - Spoken laughing: @text@
- Pauses
  - Brief pause while speaking 2-3 sec.: ,
  - Pause 3-4 sec.: .
  - Pause 5 sec. or longer, rounded up to the nearest sec.: <P: 05>
- Overlapping speech (approximate, shown to the nearest word, words not split by overlap tags): [text]
- Backchannelling: <S1> mhm </S1>
  - <S2> okay </S2>
- Hesitations
  - /öö/ er
  - /(ö)m/ erm
  - /aa/ ah
- Capital letters: only in acronyms: NATO, EU etc.
- Numbers as numbers (10,000, 1932, 16), except those smaller than 10 (two or three, the second time, etc.)
- Names of participants: <NAME>
- Nonsense words: <SIC> text </SIC>
- Spelling out a word or acronym etc, as letters: T-U-C, V-W
- Reading aloud: <READING> text </READING>
- Switching into a foreign language: <FOREIGN> text </FOREIGN>

(if it's a long stretch, say, of Swedish, no need to transcribe it all)

- Other events which affect the interpretation or comprehension of what is being said:

<PREPARING OVERHEAD 1:23>

<WRITING ON BLACKBOARD>

<APPLAUSE>

<WHISPERING>

<DISC / TRACK / FILE / CD CHANGE>

- Coughing, sighing, gasping, etc., if the speaker coughs etc. while speaking and this affects the situation or flow of speech (but NOT if other participants cough or sneeze, etc):

<COUGH>

<GASP>



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